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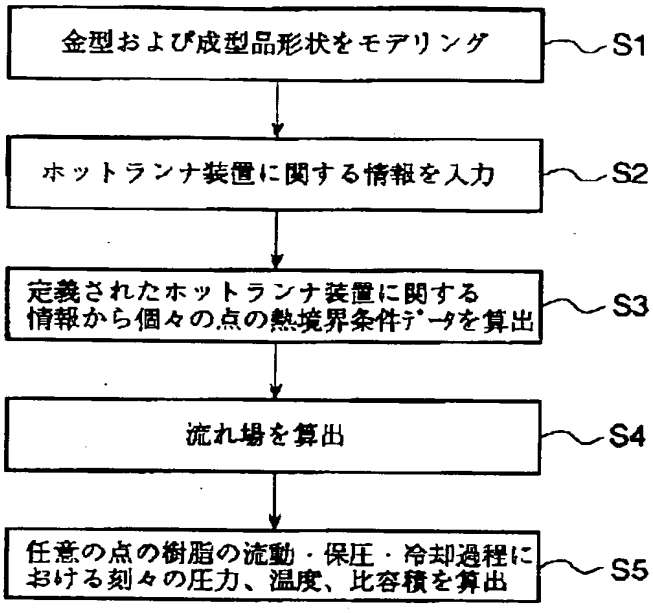
TITLE : METHOD AND DEVICE FOR SIMULATION OF INJECTION MOLDING PROCESS



ABSTRACT : PURPOSE: To realize more exact estimate of temperature of resin, its pressure and its specific volume behavior by a method wherein the thermal behavior of a sprue runner part in a hot runner device is modelled as the more strict thermal boundary condition.

CONSTITUTION: The shape models for a mold and of a molded article are divided so as to execute a numerical. analysis method including a finite element method, a boundary element method and a finite difference method in the step S1. The dividing method of resin, its heating method, the cooling capacity of cooling pipe and the like on a hot runner device used as defined in the step S2. On the basis of the defined information, boundary conditions on each infinitesimal element is set under the consideration of the difference between the heating systems in the step S3. For any infinitesimal element in the shape model of the molded article, a field of flow is calculated by use of equation of motion, equation of continuity and equation of energy in the step S4. In the flowing, dwelling and cooling process of resin to any infinitesimal element, pressure, temperature and specific volume are calculated momentarily in the step S5.